

Cellular Automata Accelerator in RISC-V Processor

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Abstract

Your abstract goes here. This should be about 2-3 paragraphs summarising the motivation for your project and the main outcomes (software, results, etc.) of your project.

Keywords: Cellular Automata, RISC-V, FPGA, AXI, Accelerator

Contents

1	Introduction	4
1.1	Motivation	4
1.2	Objectives	4
2	Background	5
2.1	Cellular Automaton	5
2.1.1	Application	5
2.2	FPGAs	5
2.2.1	Verilog	5
2.3	RISC-V	5
2.3.1	AXI	5
2.3.2	vivado-risc-v	5
2.4	Related Works	5
3	Design	6
4	Implementation	7
5	Evaluation	8

<i>Cellular Automata Accelerator in RISC-V Processor</i>	3
6 Project Management	9
6.1 Methodology	9
6.2 Timeline	9
6.3 Resources	9
7 Conclusions	10
7.1 Future work	10

Chapter 1

Introduction

Write around four paragraphs establishing the context and motivating your project.

1.1 Motivation

1.2 Objectives

One sentence summary of your project. Followed by a short list of concrete objectives:

- Objective 1
- Objective 2
- Objective 3

Chapter 2

Background

2.1 Cellular Automaton

2.1.1 Application

2.2 FPGAs

2.2.1 Verilog

2.3 RISC-V

2.3.1 AXI

2.3.2 vivado-risc-v

2.4 Related Works

Chapter 3

Design

In this chapter, we describe the overall design of our solution to the problem identified in Chapter 1, building on work described in Chapter 2.

Chapter 4

Implementation

In this chapter, we describe the implementation of the design we described in Chapter 3. You should **not** describe every line of code in your implementation. Instead, you should focus on the interesting aspects of the implementation: that is, the most challenging parts that would not be obvious to an average Computer Scientist. Include diagrams, short code snippets, etc. for illustration.

Chapter 5

Evaluation

Describe the approaches you have used to evaluate that the solution you have designed in Chapter 3 and executed in Chapter 4 actually solves the problem identified in Chapter 1.

While you can discuss unit testing etc. you have carried here a little bit, that is the minimum. You should present data here and discuss that. This might include *e.g.* performance data you have obtained from benchmarks, survey results, or application telemetry / analytics. Tables and graphs displaying this data are good.

Chapter 6

Project Management

6.1 Methodology

6.2 Timeline

6.3 Resources

Chapter 7

Conclusions

The project is a success. Summarise what you have done and accomplished.

7.1 Future work

Suggest what projects might follow up on this. The suggestions here should **not** be small improvements to what you have done, but more substantial work that can now be done thanks to the work you have done or research questions that have resulted from your work.

Bibliography